

## Quick Start Guide to CMDS for the Phytotron

At the start of an experiment, go to CMDS Control Console in the control room (Room 210). The overview screen should be displayed. Highlight the environmental growth chamber that you will be working with by moving the mouse cursor over it and select it by left clicking with the mouse (Figure 1).

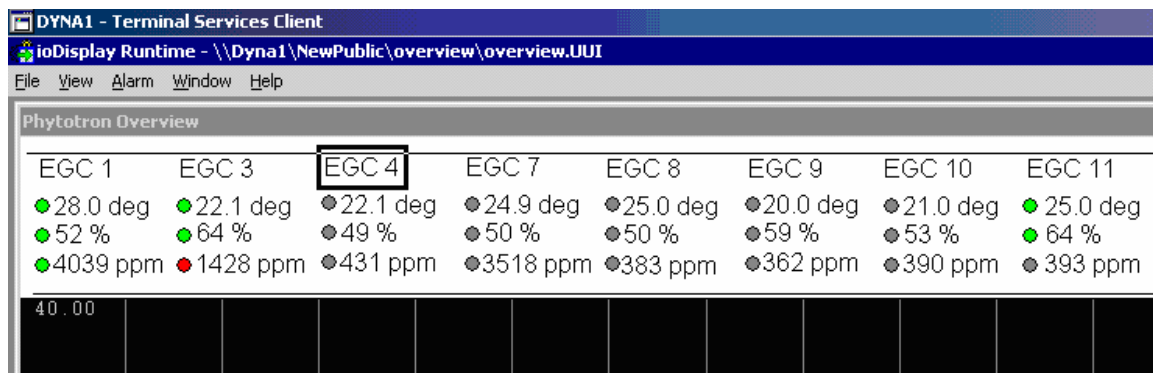


Figure 1. Overview screen

The chamber detail screen and graph will become visible. Select *Setpoints* from the bottom right on the detail screen (Figure 2.)

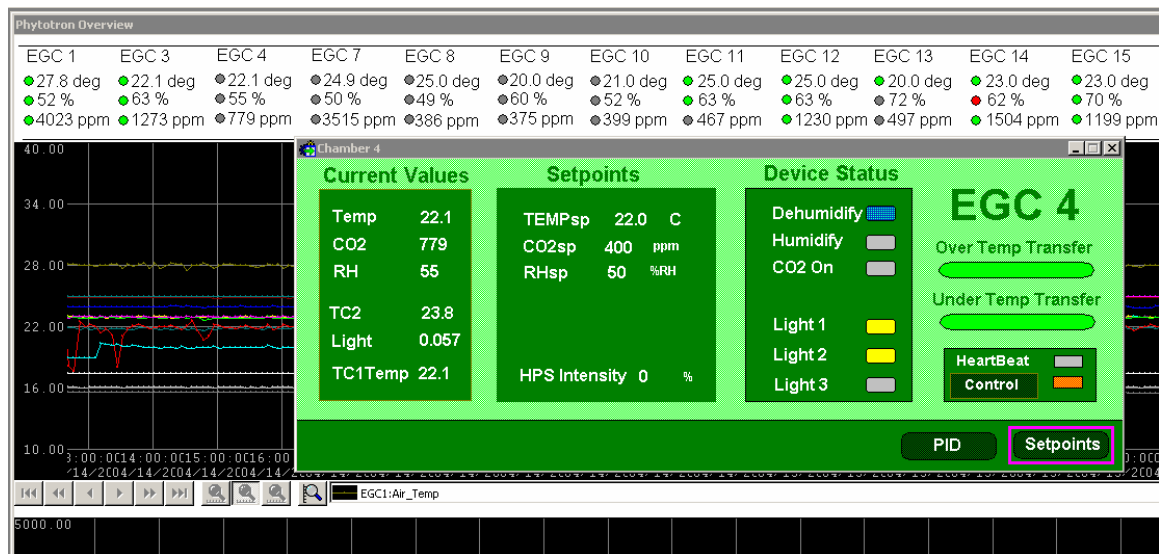


Figure 2. Chamber Detail Screen

The *Setpoint Screen* will become visible. On this screen there are inputs for everything that needs to be setup to run an experiment and collect data. The *Chamber 4 Time* at the top left is the current Opto22 controller time. This time is logged with the parameter values every five minutes (every minute for OES). If you want the experiment time changed speak to one of the engineering support staff.

Below that are the diurnal settings for temperature, CO2, relative humidity and the lights. These are set by moving the mouse over the name and click, for example *Temp* which will cause a popup to appear that allows input of the setting (figure 3). Enter the value for the setting and select OK.

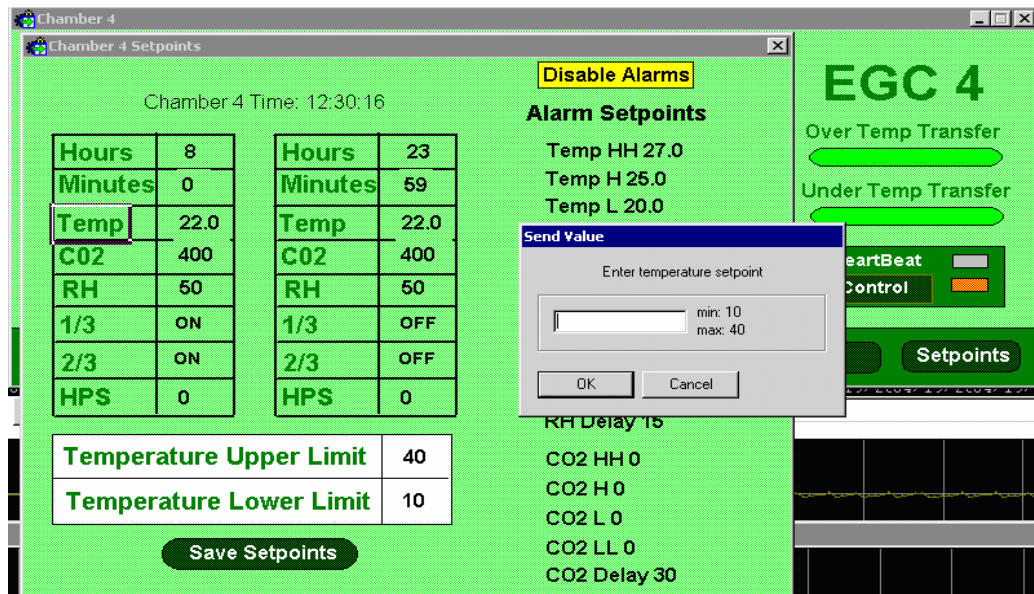


Figure 3. Entering Diurnal Setpoints

Below that are the upper and lower limits for the CMDS control system. If the temperature goes above or below these settings control will be switched to the chamber hardware controller in a last attempt to save the experiment.

At the right are the alarm settings. Guidelines for these settings are:

Temp HH and LL are set five degrees above and below setpoint.

Temp H and L are set two degrees above and below setpoint.

Temp Delay is set to five minutes.

Temperature alarms are logged to the database and reported to the Phytotron Systems Engineer. It is his job to coordinate response to temperature alarms. Temperature alarms can also be sent to any email address. See the CMDS database users guide for setting up a user and email address and attaching an alarm to a parameter or ask one of the engineering support staff.

RH HH and LL are set to ten percent relative humidity above and below setpoint.

RH H and L are set to eight percent relative humidity above and below setpoint.

RH Delay is set to fifteen minutes.

Relative Humidity alarms are logged to the database and can also be sent to any email address.

CO2 HH and LL are set to setpoint plus or minus 20 percent of the setpoint value. For example for a setpoint of 1200 the HH value would be  $1200 + 240$  or 1440.

CO2 H and L are set to setpoint plus or minus 10 percent of the setpoint value.  
CO2 Delay is set to 30 minutes. Figure 4 shows selection and setting of the alarm values.

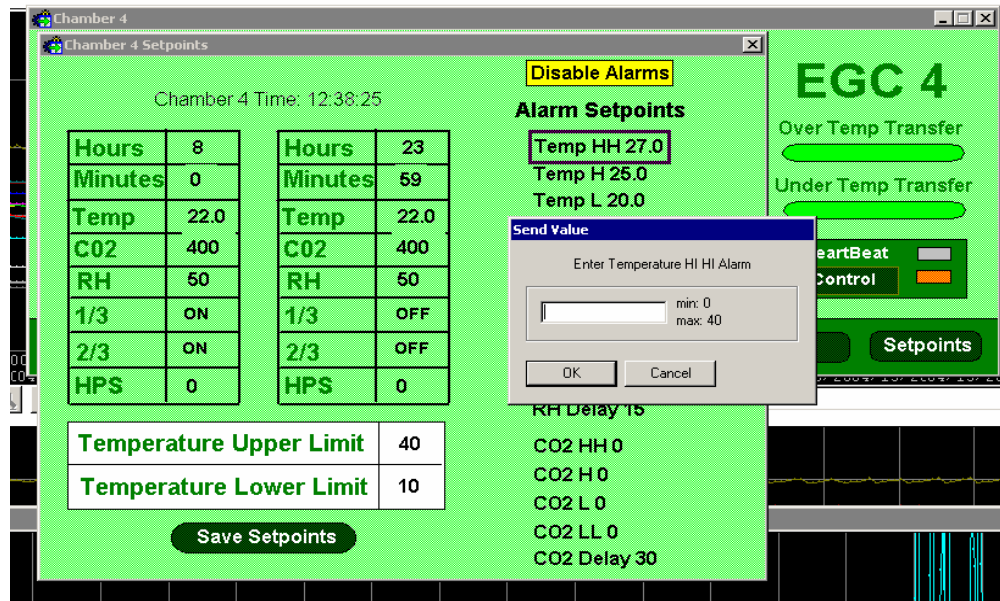


Figure 4. Entering Alarm Limits

Alarms for a growth chamber may be disabled by selecting the yellow *Disable Alarms* button. The alarm status lights will be shown in grey on the main overview screen (Figure 1) if disabled, either by having a value of 0 for the alarm value or by being disabled with the *Disable Alarms* button. If a value of zero is truly desired for the alarm, enter a small negative or positive number such as 0.1.